DOCUMENT RESUME

ED 258 162 CS 008 073

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TITLE Elementary Teachers' Beliefs about Reading and Knowledge of Reading Content: Relationships to Decisions about Reading Outcomes.
PUB DATE [84]
NOTE 26p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Content Area Reading; Decoding (Reading); Elementary Education; Elementary School Teachers; *Knowledge Level; *Outcomes of Education; Reading Comprehension; *Reading Instruction; *Reading Research; Student Centered Curriculum; *Teacher Attitudes; *Teacher Behavior; Teaching Methods

ABSTRACT

To explore the relationships between teachers' knowledge of basic reading content, beliefs about reading, and decisions about the importance of specified reading learning outcomes, two existing instruments (Knowledge Test of Reading for Elementary Teachers and Propositions About Reading Instruction Inventory) and one researcher-developed instrument were administered to 100 elementary school teachers. Results showed that the best predictor of teachers' identification of important reading behavior outcomes was knowledge of reading content. Reading behavior outcomes differed significantly between primary and intermediate level teachers for recognition of sounds represented by vowels; intermediate teachers gave these higher ranking than did primary teachers. It was concluded that beliefs about reading do influence elementary teachers' decisions about the importance of reading outcomes typically taught in the elementary grades. Teachers who hold student centered reading beliefs are not likely to value instruction that focuses on decoding. (HOD)

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ED258162

Elementary Teachers' Beliefs About Reading and Knowledge of Reading Content: Relationships to Decisions About Reading Outcomes

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Abstract

Elementary Teachers' Beliefs About Reading and Knowledge of Reading Content: Relationships to Decisions About Reading Outcomes

Relationships between elementary teachers' beliefs about reading, knowledge of basic reading content, and decisions about the importance of students' reading behavior in relation to grade level were examined. Significant correlation coefficients were found for (1) knowledge of reading and reading behavior outcomes focusing on discrimination of sounds represented by consonants and consonant clusters and (2) student-centered reading beliefs and reading behavior outcomes associated with making conclusions and drawing inferences about stories read. Significant negative correlations were noted for (1) knowledge of reading and outcomes dealing with comprehension of explicitly stated meaning and details in reading passages and (2) student-centered reading beliefs and all reading outcomes focusing on basic decoding skills and literal comprehension of story information. The best predictor of teachers' identification of important reading behavior outcomes was knowledge of reading content. Reading behavior outcomes differed significantly between primary and intermediate level teachers for recognition of sounds represented by vowels; intermediate teachers gave these higher rankings than did primary teachers. The results indicate that beliefs about

reading influence elementary teachers' decisions about the importance of reading outcomes typically taught in the elementary grades. Teachers who hold student-centered reading beliefs are not likely to value instruction that focuses on decoding.

Elementary Teachers' Beliefs About Reading and Knowledge of Reading Content: Relationships to Decisions About Reading Outcomes

Research in elementary reading instruction has been expanded to inlude not only the process variables that teachers use, but also the decisions, judgements, and thoughts of teachers about their reading instruction (Duffy, 1982). Teachers' beliefs or theoretical orientations toward reading have been shown to influence their decisions and judgements about how reading is taught (Duffy & Metheny, 1979; Harste & Burke, 1977; Metheny, 1980).

Teachers' beliefs about reading can be catagorized as either student-centered or content-centered (Duffy & Metheny, 1979). Student-centered reading beliefs are associated with natural language or whole language approaches to teaching reading, which focus on engaging students in whole text and does not treat the features of written language in isolation. Content-centered reading beliefs are related to basal readers and linear types of approaches for reading instruction. Pedagogical emphases is given to words and word parts and their application in context.

Several factors have been identified as influencing the beliefs that teachers have about reading. Bawden, Burke, and Duffy (1979) found that first grade teachers held a content-centered belief about reading while teachers at other grade levels were more student-centered. Older, more experienced teachers were typically content-centered in their reading

beliefs. Younger, less experienced teachers were noted to be more student-centered in their orientations toward reading. Stansell, Moss, and Robeck (1982) reported that preservice reading courses influence teachers' reading beliefs. If students take a course emphasizing a student-centered belief immediately prior to student teaching they shift toward a whole language orientation. However, if no such course is taken, students tend to be more content-centered in their reading beliefs.

Teachers' behaviors in classroom reading instruction are assumed to be guided by thoughts, judgements, and decisions reflective of their beliefs about reading (Shavelson & Stern, 1981). However, teachers' decisions about reading instruction may not reflect student outcomes identified by someone else, such as in the reading materials, by the school district, or by the state legislature. Content-centered teachers may make decisions about reading instruction that deal only with basic decoding skills. Teachers who are student-centered may decide that reading instruction should be based only on a natural or whole language approach. In either case, it could be argued that teachers' reading beliefs may effect how they teach reading and what reading behaviors are identified for their students to demonstrate.

The purposes of the present study were to explore the relationships between teachers' knowledge of basic reading content, beliefs about reading, and decisions about the importance of specified reading learning outcomes. Critical features of the study were the inclusion of measures of teachers' knowledge of basic reading content and decisions about the value

assigned to decoding and comprehension reading outcomes in relation to their reading beliefs.

Method

Subjects

The subjects for the study were 100 elementary level teachers who volunteered to participate. All of the teachers were presently teaching in a public school system and represented both primary (N = 60) and intermediate (N = 40) grade levels. There were 10 males and 90 males, with a range in classroom teaching experience of 1 to 26 years, a median of 8 years, and a mode of 7 years. All subjects read and responded to the same materials, which were administered in small group sessions by the researchers.

Materials

Two existing instruments and one researcher developed instrument were administered to each of the subjects. The Knowledge Test of Reading for Elementary Teachers (Rude, 1981) and the Propositions About Reading Instruction Inventory (Duffy & Metheny, 1979) were the existing intruments used in the present study. The researcher developed instrument was a set of seven reading learning outcomes that were common to the primary and intermediate levels of the Standford Diagnostic Reading Tests (Karlsen, Madden, & Gardner, 1976).

The knowledge test of reading is a 52 item test of basic reading content found in popular reading methods textbooks. Field testing was conducted by administering the test to 455 elementary level teachers who obtained an average score of 38.0,

with scores ranging from 14.0 to 52.0. The test is multiple choice and requires teachers to recognize the best response from four alternatives. There are items that could be considered both content-centered and student-centered found in the test. An example of such items follows:

An advantage to using the basal reader is that

a. students in class are at the same level
b. they are always written at a child's independent level
c. they are systematically organized
d. their stories are interesting

The language-experience approach to teaching reading is best characterized by which of the following terms?

a. comprehension
b. word attack
c. workbooks
d. cassette tapes

A demographic section of the test contained items for subjects to record the following information: total number of years of teaching experience, educational background (highest degree), grade level taught, and number of reading courses completed.

The Propositions About Reading Inventory (Duffy & Metheny, 1979) is a 45 item instrument that assesses the nature of teachers' conceptions about reading along five dimensions that reflect major conceptual views of reading: linear skills, basal text, natural language, interest, and integrated curriculum. Subjects respond to each of the 45 items by circling a scale ranging from strongly agree to strongly disagree. Factor analysis using a three factor solution was conducted on the five subscales: interest, natural language, and integrated curriculum loaded on a common factor (student-centered reading beliefs) and basal text and linear skills loaded on a single factor (content-

centered reading beliefs).

The researcher developed instrument was a set of seven reading learning outcomes common to both the primary and intermediate levels of the Standford Diagnostic Reading Test (Karlsen, Madden, & Gardner, 1976). As noted in Figure 1, there were four outcomes that had a decoding focus and three that had a comprehension focus. Subjects were to rank order the reading outcomes from one to seven; one being the most important and seven being the least important.

Insert Figure 1 Here

Procedures

Subjects were administered the three instruments in small group settings by the researchers. Subjects were instructed to complete all three instruments during the testing period. The knowledge test of reading and the test of reading orientation were administered in the manner prescribed by their authors. Directions for completing the ranking of reading learning outcomes were presented in both verbal and written format. Subjects were directed to rank each outcome in terms of its importance to the grade level they were now teaching by assigning a rank of one to the most important outcome, a two to the second most important, a three to the third most important, and so on until they had ranked each outcome. Only one ranking could be given to any reading outcome and all outcomes had to be ranked.

The knowledge test was scored according to the answers provided by the author (Rude, 1981). The reading belief responses were summed for both student-centered and content-centered items, subjects whose student-centered score was greater

than the content-centered score were deemed to be student-centered in their reading beliefs; subjects whose content-centered score was greater than the student-centered score were deemed to be content-centered in their reading beliefs. Mean rank values for each reading outcome were computed and identified by grade level (primary or intermediate teachers) and by reading belief (student-centered or content-centered).

Analysis

A t-test was used to test differences in teachers' knowledge of basic reading content between the primary and intermediate levels. The dependent variable was each teacher's summated score on the Knowledge Test of Reading for Elementary Teachers (Rude, 1981).

Stepwise regression was employed to examine the effects of teaching experience, educational background, grade level taught, and number of reading courses completed to the dependent variable, knowledge of reading. The F-ratio was used to determine the contribution of the predictor variables to the dependent variable.

Analysis of variance was used to test differences in the mean rankings of reading outcomes of the primary and intermediate level teachers. Regression analyses were then used, treating each reading outcome as a separate dependent variable with the following serving as independent variables: knowledge of reading, student-centered reading beliefs, and content-centered reading beliefs.

Results

Significant differences were found for primary level and intermediate level teachers' knowledge of reading content. Table 1 presents the means, standard deviations, t-statistic, and the probability of a greater absolute value of t.

Insert Table 1 Here

Table 2 presents the R^2 values for the predictor variables that met the significance level for entry into the stepwise regression model. The F-ratio was used to determine the contribution of the predictor variables to the dependent variable, knowledge of reading. The predictor variables of educational background and grade level taught accounted for 14 percent of the variance for the full model. The remaining predictor variables (years teaching experience and number of reading courses completed) showed no significant contributions in the stepwise regression model.

Insert Table 2 Here

The mean scores, F-ratio, level of significance, and overall means for rank order of each reading outcome are displayed in Table 3. A rank of 1 was assigned a value of highest priority in terms of teaching and a rank of 7 indicates the lowest priority value that could be assigned to a given outcome. There was a significant difference ($p < .05$) between primary and intermediate teachers' rankings of reading outcomes two and seven. There were no significant differences found between the two levels of teachers for reading outcomes one, three, four, and five.

Insert Table Three Here

Information about the significant relationships between the

variables (1) knowledge of reading, (2) content-centered reading beliefs, and (3) pupil-centered reading beliefs as related to the seven reading outcomes is displayed in Table 4. There is a positive ($p < .05$) correlation between reading behavior outcome one and knowledge of reading content and a negative correlation ($p < .05$) between reading outcome six and knowledge of reading. No significant correlations between any of the other reading outcomes and knowledge of reading were found. Significant positive correlations ($p < .05$) exists between reading outcomes one and five and content-centered reading beliefs and there are significant negative correlations ($p < .05$) between reading outcomes three and six and content-centered reading beliefs. All correlations between the seven reading outcomes and student-centered reading beliefs were significant. Significant positive correlations are noted for reading outcomes three and four; significant negative correlations exist for reading outcomes one, two, five, six, and seven.

Insert Table 4 Here

In Table 5, cannonical correlations used the best overall contributions of relationships of the seven reading outcomes to test for significance with (1) knowledge of reading, (2) student-centered reading beliefs, and (3) content-centered reading beliefs. The only significance ($p < .01$) found is for the variable knowledge of reading. Knowledge of reading accounted for 22 percent of the overall variance for rank ordering of the reading outcomes.

Insert Table 5 Here

Discussion

Several observations can be noted about the results of the current study. An interesting finding, as noted in Table 1, was that the mean scores of primary grade teachers were significantly higher than the mean scores of intermediate grade teachers on the knowledge test of reading. Several explanations can account for the differences in the groups' performance. First, primary teachers typically teach a wider range of decoding skills than do intermediate level teachers. At the intermediate grades there is a greater emphasis on structural analysis and contextual analysis. Second, the reading materials used by primary grade teachers deal more with decoding skills that are grapheme/phoneme oriented than do materials used by intermediate level teachers. The effects of both teaching and using materials that emaphsize decoding could result in primary teachers getting more test items correct that measured knowledge of basic decoding.

Although the predictor variable educational background accounted for a portion of the variance influencing teachers' knowledge of reading content, the number of reading courses taken had no influence in the stepwise regression analysis. We assumed than individuals who held advanced degrees would have taker a greater number of reading courses. However, the number of reading courses taken may not be associated with the holding of an advanced degree. Furthermore, the knowledge test of reading is a measure of basic knowledge in reading and does not focus on the synthesis and analysis of reading instruction components. It is possible that the test is not sensitive to assessing a teacher's higher level knowledge about reading instruction.

The results related to ranking of reading outcomes indicated significant differences ($p < .05$) in the mean scores of primary and intermediate grade level teachers for the rank ordering of outcomes two and seven. Outcome two focused on discrimination of consonant sounds, which primary teachers ranked signficantly higher than intermediate teachers and reflects the reading curriculum associated with primary grades. However, outcome seven dealt with sounds represented by vowel letters and intermediate level teachers ranked this outcome signficantly higher than did primary level teachers. It is difficult to interpret this difference since a great deal of emphasis is placed on the teaching of sounds represented by vowels in primary reading programs; thus, it would be expected that primary teachers place greater value on teaching these skills than do intermediate grade teachers. Perhaps, continued emphasis on vowel sounds and vowel patterns is carried over into the intermediate grades as a basic decoding skill area. Vowels represent greater variation in the sounds that they represent and may require additional instructional attention at the intermediate level.

Of the seven overall rank ordering of reading outcomes, a greater emphasis was placed by all teachers on teaching discrimination of consonant sounds, discrimination of vowel sounds, and literal level comprehension skills. In the area of comprehension, this finding supports the work of Durkin (1981) in which a major finding in her study was that emphasis on comprehension instruction is minimal with greater value placed on literal level comprhension than at higher, more interpretive

interpretive reading skills (drawing conclusions, making inferences, and generalizing), all of which are considered essential elements by most reading authorities. This ranking contridicts what might be expected in such a rank ordering of reading outcomes, but offers further support for Durkin's findings.

Teachers' beliefs about reading in relation to the reading outcomes revealed some interesting findings. Teachers who hold content-centered reading beliefs had signficant positive correlations with reading behavior outcomes one and two. Both of these outcomes are decoding oriented; focusing on the sounds represented by consonant and vowel combinations. Significant negative correlations were found for reading outcomes three and six, which are comprehension outcomes. Student-centered teachers correlated negatively with five of the reading outcomes; all four decoding oriented outcomes and the literal level comprehension outcome. It was anticipated that student-centered teachers would not value reading outcomes focusing on decoding skills.

Content-centered teachers could be associated with decoding reading outcomes because these are emphasized in basal reading materials and are much more easily defined for teaching and assessment than are areas of reading comprehension. The nature of student-centered reading beliefs would influence the negative relationship noted in the findings. In most cases, these individuals are inclined to teach reading from an interest and natural language perspective, than from a perspective that would

encourage the use of any type of reading behavior outcome (Goodman, 1979).

It is also interesting to note that knowledge of reading content had a negative relationship with how teachers ranked the teaching of literal level comprehension skills stated in reading outcome number six. We anticipated that knowledge of reading content would have a positive relationship because recent research by Durkin (1978-79, 1981) identified literal comprehension as a major instruction focus in basal readers and that when comprehension is taught, it is usually at a literal level. Furthermore, teachers' knowledge of reading was the only variable that significantly contributed to their ranking of reading outcomes, which would suggest that if teachers are going to value any reading comprehension outcome it would have been one for which research has demonstrated they are knowledgeable.

In making decisions about the importance of given reading outcomes, teachers' knowledge of reading content and beliefs about reading influence their decisions. Teachers who are knowledgeable of basic reading instruction are more likely to be content-centered in their identification of reading outcomes that their students should demonstrate. Content-centered teachers are inclined to give greater emphasis to decoding oriented reading outcomes, whereas student-centered teachers are inclined to focus on comprehension reading outcomes. In either case, there is a lack of a well balanced reading instructional program. Content-centered teachers can not ignore the importance of students'

applying their decoding skills in meaningful context where the focus is on comprehension (Durkin, 1984; Heilman, Blair, & Rupley, 1981). Teachers who are student-centered in their reading beliefs can not overlook the fact that many decoding oriented reading behaviors have been shown to be important in students' reading development (Chall, 1983; LeBerge & Samuels, 1974; Zecker & DuMont, 1984). Whether or not elementary teachers can hold both student-centered and content-centered reading beliefs is a major question that is in need of additional research.

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Figure 1.--Reading Behavior Outcomes Selected from the Primary and Intermediate Levels of the Standford Diagnostic Reading Test

1. The pupil will discriminate among consonant sounds in dictated and words, e.g., single consonant letters, consonant clusters, and digraphs.

2. The pupil will recognize in printed words the same vowel sounds represented by the same spelling or two different spellings.

3. The pupil will draw conclusion and make inferences and generalizations from explicitly and implicitly stated meanings in short reading passages by 1) completing a sentence in a passsage presented in a modified cloze format, and 2) answering questions about a passage.

4. The pupils will demonstrate auditory recognition of the meanings of words frequently found in reading materials for the elementary grades by selecting a word or words that best fit the meaning of a sentence.

5. The pupil will recognize in printed words the same consonant sounds represented bythe same spelling or two different spellings.

6. The pupil will comprehend explicitly stated meanings and details in short passages by 1) completing a sentence in a passage presented in a modified cloze format, and 2) answering questions about a passage.

7. The pupil will discriminate among vowel sounds in dictated and written words, e.g., short vowel sounds and long vowel sounds.

Table 1.--Significance Test for Knowledge Test of Reading for Primary and Intermediate Level Teachers

Level	N	Mean	Std Dev	Std Error	T	Prob
Primary	60	36.45	7.696	0.9936	2.74	0.007
Intermediate	40	32.40	6.875	1.0870		

Table 2.--Significant Contributions of Predictor Variables to Predicting Knowledge of Reading

	Df	Mean Square	F	Prob f	R^2
Regression	2	396.05	7.94	.0006	.14
Error	96	49.88			
Total	98				

	B-value	Std Error	SS	F	Prob f
Intercept	32.10				
Grade Level	-.69	.32	231.37	4.64	.033
Educational Background	1.74	.57	472.78	9.48	.003

Table 3.--Mean Differences and Rank Orderings of Reading Outcomes for Primary and Intermediate Teachers.

Reading Outcome	$\bar{x}$ Primary	$\bar{x}$ Intermediate	F	Total $\bar{x}$	Ranks
1	3.05	3.15	.06	3.09	1
2	4.47	3.85	3.73*	4.22	6
3	4.50	4.80	.36	4.62	7
4	4.15	4.15	0.00	4.15	4
5	4.28	4.07	.36	4.20	5
6	3.87	4.47	2.05	4.11	3
7	3.78	3.02	3.92	3.48	2

*$p < .05$

Table 4.--Correlation Coefficients for Knowledge of Reading and Content-Centered and Student-Centered Reading Beliefs for Reading Outcomes

Reading Outcome	Reading Knowledge	Content-Cent	Student-Cent
1	.20*	.25**	-.28**
2	.17	.18	-.28**
3	-.18	-.21*	.38***
4	-.16	-.10	.32***
5	-.02	.22*	-.23*
6	-.19*	-.23*	-.21*
7	.15	.14	-.24*

*$p < .05$

**$p < .01$

***$p < .001$

Table 5.--Canonical Correlations of Predictor Variables for Overall Contributions to Ranking of Reading Outcomes

Variable	Canonical Correlation	R^2	F-statistic	Prob F
Reading Knowledge	.47	.22	1.652	.01
Student-centered Beliefs	.37	.14	1.411	.10
Content-centered Beliefs	.34	.11	1.302	.20